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# **Sports Nutrition and Ortho Congress**

December 08-09, 2016 | Philadelphia, USA

## **Posters**



## **SNOC 2016**

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Cool dudes and African body-image-sports food and energy drink consumption in a sports-resourcedeficient urban area in South Africa

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Nutritional supplements (sports food) are used by competitive and recreational athletes of all ages. These are often people in predominantly affluent communities, who can afford the cost of nutritional supplements. The situation is further exacerbated by the general pressure placed on certain groups to use supplements. Young sports participants who are engaged in developmental and competitive phases of sport, in particular, encounter peer pressure to use supplements and to enhance body image. As a consequence the supplement industry has grown to meet the increasing demand. Food movements on the other hand, are a growing and a diverse phenomenon globally. In South Africa, where the youth are the majority of the large unemployed sector, job creation for youth in poor communities is a key development goal. Recently there is evidence of a socio-cultural shift where young people have become involved in urban food gardens. There is a high level of bodily awareness, often with less access to formal sporting facilities. Township youth may thus redirect their ideas of a good body-image into new urban food movements. These youth may consume sports food and energy drinks if they are able to purchase these items. The research objective is to explore the supplement and energy drink labels and other sources of information that influence purchasing decisions and trends that may contribute to the body- image aspiration, in the respective communities.

#### Biography

Darlene Miller is a Senior Lecturer at the Witwatersrand School of Governance. She has obtained her Doctorate in Sociology from Johns Hopkins University in Baltimore, USA. Her research is multi-disciplinary with specific interests in food retailing, food movements and the regional political economy in South Africa.

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### A yeast fermentate prevents adverse effects of heat stress

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Temperature is one of the most challenging factors affecting human health. Road workers, military personnel and athletes are all at high risk of heat stroke during intense outdoor physical activity. Exposure to heat results in a multitude of pathological and physiological responses which should be properly managed to prevent serious injuries or even death. Different approaches have been proposed for mitigation of heat-induced adverse effects, among which are special diets, probiotics, etc. We examined the effect of the yeast fermentate EpiCor (EH) on the prevention of heat stress-induced adverse events in rats. We found that an increase in body temperature of animals, by exposure to heat stress conditions, resulted in significant morphological changes in the intestine. Treatment of rats with EH before heat stress prevented the traumatic effects of heat on the intestine. Changes in intestinal morphology of stressed rats pre-treated with PBS resulted in significant elevation of lipopolysaccharides (LPS) levels in the serum of these animals. Pre-treatment with EH was effective in prevention of LPS release into the blood of rats exposed to heat. Finally, the study showed that elevation of body temperatures resulted in a significant increase in the concentration of vesicles in the blood of control rats, indicating a pathological impact by heat on erythrocyte structure. Treatment of rats with EH completely protected their erythrocytes from this pathology. Overall, the results showed the protective effect of the yeast fermentate in preventing heat-induced adverse effects.

#### **Biography**

Henri Alexandre Giblot Ducray has graduated from the St. Ambrose University, Iowa, with a BSc in Biology. He is currently pursuing PhD from Auburn University, Alabama, in Anatomy, Physiology and Pharmacology Department. He is a Graduate Research Assistant and has been involved in several of research projects.

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### Functional outcome of distal femoral shaft fractures after fixation with tibial nails

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**Objective:** The objective of this study is to assess the functional outcome and the time of healing in supracondylar femur fractures fixed with intramedullary tibial nail.

**Methods:** It was a randomized control trial study comprising of 25 patients with closed supracondylar femoral fractures operated with tibial intramedullary nail in Al Noor Specialty Hospital during a period of four years (2009-2013). The functional outcome was measured by Tegner Lysholm criteria during and after 4 years.

**Results:** Out of 25 patients, 20 were male and 5 were female. The mean time of healing was 15.80 (2.646) weeks. 6 (24%) patients showed excellent results, 12 (48%) patients showed good results and 7 (28%) patients showed fair results. There were no poor results in our study.

**Conclusions:** Retrograde tibial nails are cheaper, convenient and comparable option for stabilizing the supracondylar fracture compared to standard retrograde femoral nails.

#### Biography

Siddieq Mohammed has interest towards volunteering and Public Health Promotion. Furthermore, he was an Active Organizer in many events and conferences at Umm Alqura University. He was the President of the Media Committee of the University Medical Student Club.

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## **SNOC 2016**

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Prospective study of ankle injury in high level athlete in INSEP: Incidence of the lesion of the distal tibiofibular syndesmosis (DTFS)

Frey Alain and Papon Pierre INSEP, France

**Purpose:** The lesions of DFTS are often unknown during ankle trauma. We wanted to see the incidence of this lesion and to validate the specific clinical signs.

**Materials & Methods:** Between March, 2015 and March, 2016, we included any ankle trauma of our high-level sportsmen. They all benefited from an initial clinical examination diligently of the Ottawa rules and an ultrasound realized in 3 days. If there was a lesion of the AITFL in ultrasound, MRI and stress radiographies were realized. A protocol of treatment was proposed: functional treatment if distension of AITFL, hiking boots if isolated rupture of AITFL, plaster if rupture of AITFL and lesion of inter osseous membrane without diastasis, surgery if diastasis. All were seen again on day 8 with re-education, day 30 and between 4 and 6 months after their trauma.

**Results:** 126 ankle sprains were analyzed (77 M, 49 F) with 28 lesions of DFTS (22.2 %). On day 8, the sensibility and the specificity of the main clinical signs were: AITFL palpation (0.94/0.86), lateral rotation test (0.72/0.97), dorsal flexion compression test (0.72/0.97), squeeze test (0.24/0.97). In ultrasound as in MRI, besides the AITFL, are observed 8 inter-osseous membranes lesions, one PITFL lesion, 2 anterior MCL lesions and 8 TFA lesions, 15 functional treatments, 8 hiking boots and 5 plasters. The return to sport at the same level was made between 3 and 12 weeks according to the gravity.

**Conclusion:** This ligament lesion is frequent and affects several sports. The clinical examination repeated on day 8, coupled with ultrasound, seems to be the best compromise to adapt the management.

#### Biography

Frey Alain is an Emergency and Sport Medicine Doctor. He is the Chief in the Medical Department of the French National Sport Institute (INSEP) in Paris. He was the Chief of the Emergency Department in Poissy, Paris. He also works in the French Federation of Judo and Modern Pentathlon. He is the Member of the French Medical Committee of the National Olympic Committee. He has participated in a lot of conferences on Emergency and Sport Medicine.

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### Four weeks of foot orthosis intervention improves ambulatory capacities and posture of patients

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In patients with foot malalignment and/or abnormal arch foot, four weeks of foot orthoses could increase the gait distance and attenuate the post-6MWT (6-min walk test) posture alterations. Indeed, we already reported these benefits of foot orthoses in individuals with no foot malalignment. In 10 normal weight and 10 overweight patients with foot malalignment and/or abnormal arch foot, the benefits of four weeks of custom-molded orthosis intervention (D30) were examined on the 6MWT gait distance, the scores of fatigue sensation, (Pichot and MFI fatigue scales) and the post-6MWT sway of the center of pressure (CoP). One month of foot orthosis intervention significantly improved the ambulatory performances during the 6MWT, attenuated bodily fatigue sensation after the 6MWT, and reduced the post-6MWT CoP deviations, the benefits of insoles being significantly accentuated in overweight subjects.

#### **Biography**

Yves Jammes has completed his MD and DSc degrees in Faculty of Medicine of Marseille and has been an Assistant Professor in McGill University, Canada. He is the Director of the Fatigue Team in UMR MD2 and is a Scientific Consultant in the Podiatric School of Marseille. He has published 223 papers in reputed journals.

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## **Accepted Abstracts**



## **SNOC 2016**

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Effect of treadmills versus cycle ergometer on selected cardiovascular parameters in young athletes

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**Background:** Increase in the rate of sudden death among the elite athletes over the past few years highlights the issues regarding protocol of training.

**Purpose:** The purpose of the study is to compare between the effects of two different exercises testing tools on selective cardiopulmonary parameters in young athletes.

Subject: In this study, 30 young male athletes with an age ranged from 18-25 were considered.

**Method:** Two tests were performed for each participant with 24 hours at least in between. First test was on treadmill following Bruce protocol for 20 min, second test was on cycle ergometer protocol for 20 min.

**Results:** The present study showed a marked significant difference of the effect of treadmill exercise test compared to cycle ergometer test on selected cardiopulmonary parameters, statistical results showed increase in all of the heart rate, systolic blood pressure, SaO2, rate pressure product and rating of perceived exertion in treadmill testing compared to the cycling ergometer testing.

**Conclusion:** The study revealed that using treadmill impose greater load on cardio than the cycle ergometer.

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### Assessment of knowledge and dietary practices of football players at football clubs in Hawassa city, Ethiopia

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Most nutrition related studies done in developing countries like Ethiopia focuses on women and children. In Ethiopia, there is no trend of hiring nutrition consultant for football clubs even at national football team level. Currently, no published research is available to enforce the federation as well the sport club managements. A cross sectional study was conducted on a total of 76 football players out of three clubs. Almost all interviewed players believe that nutrition is important for soccer players. When qualifying questions on their nutrition knowledge is forwarded answers given by the players were varied and they have limited knowledge on soccer focused nutrition. Almost all (94.8%) believe it is good if they have a nutritionist in their club. Almost half (53.2%) reported they usually seek nutrition related information from different sources. Only 13% reported they took football focused nutrition training. Almost three fourth of the players reported that they have a habit of reading nutrition related information on packed foods. Majority (74%) reported that they don't have a habit of consuming soft drinks and bottled water is reported as the most consumed fluid before, during and after training/competition. Around 1/3 reported they have a habit eating 2hrs before training/competition, 26% before 3hrs and 19.5% before 4hrs mostly (80.6%) pasta and after training 46.8% usually eat meat, 41.6% pasta and 6.5% banana. All the results support that players have limited knowledge and suboptimal nutrition practices so there is a need for a soccer focused nutrition follow up based intensive training.

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### A novel technique for management of osteonecrosis of the femoral head

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Osteonecrosis of the femoral head (ONFH) is a debilitating disease in orthopedics, frequently progressing to femoral head collapse and osteoarthritis. It is thought to be a multifactorial disease. ONFH ultimately results in femoral head collapse in 75-85% of untreated patients. Total hip arthroplasty yields satisfactory results in the treatment of the end stage of the disease in older patients. However, disease typically affects males between the ages of 20 and 40 years and joint replacement is not the ideal option for younger patients. Recently, mesenchymal stem cells and platelet rich plasma (PRP) have been used as an adjunct to core decompression to improve clinical success in the treatment of pre-collapse hips.

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### Percutaneous bunion surgery

**Alireza Khosroabadi** Foot and Ankle Alliance, USA

**P**ercutaneous or minimally invasive surgical correction of foot deformities traditionally had a bad reputation because of perioperative pain, surgical imperfections, scars and risk of recurrence. Much of these complications were not related to the actual percutaneous surgery, but to the surgical execution and improper indications. Early reports of percutaneous hallux valgus surgery date back to the 1940s . Peter Bösch modified the popular Kramer osteotomy into his so-called subcapital osteotomy (SCOT) technique and was performed using a high-speed power bur. Percutaneous surgical techniques or minimally invasive surgery in foot and ankle surgery are becoming more desired by both patients and surgeons. Percutaneous surgery is defined by a soft tissue or osseous procedure being performed through the smallest possible incision without direct visualization of the underlying target structure(s). Percutaneous surgery has many potential advantages which include quicker operative times, smaller incisions, decreased scaring, lower complication rates and faster recovery times. Potential disadvantages are related to the need for specific equipment and an extensive learning curve. A commonly attempted percutaneous procedure is a first metatarsal osteotomy for correction of hallux abductovalgus or bunion. Presented are the author accurate preoperative and intraoperative techniques and results.

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### Charcot neuroarthropathy following simultaneous pancreas-kidney transplant: A case report

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Charcot neuropathic arthropathy of the foot (CF) is a fairly common and devastating complication normally found in patients with long standing, mostly uncontrolled, diabetes. Occurring in up to 10 percent of the diabetic population, CF is characterized by a relatively painless, progressive and degenerative bone and joint destructive process with neuropathy and trauma as essential components. The absence of normal proprioceptive and protective mechanisms results in pathological fractures, deformity, and ulceration, with potential for limb loss. In the diabetic patient, concomitant risk factors for the development of CF include vascular disease, neuropathy, limited joint mobility, previous foot ulcer or amputation and nephropathy. Simultaneous pancreas-kidney transplantation (SPKT) is an accepted approach and treatment of choice in patients with type I diabetes with accompanying end stage renal disease (ESRD). Documented cases in the literature reveal CF as a post-transplant consequence. Traditional post-operative immunosuppressive therapy is identified as an additional risk factor for the development of de novo CF after SPKT. This report describes an unusual case of a patient who presented with a case of full-blown CF deformity with ulceration soon after SPKT. Post-SPKT immunosuppression therapy, particularly the use of corticosteroids, is acknowledged as a causative influence for the development of neuroarthropathy leading to CF.

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### Nutritional supplement use among school level athletes in Sri Lanka

Eashaan Dassanayaka International Institute of Health Sciences, Sri Lanka

**Introduction:** Sports supplements use is seen among school athletes in Colombo but their actual practices and recommendations and associated risks are unknown. As well as the knowledge on the products they use is unknown.

**Objective:** To assess the knowledge and practices regarding approved and non-approved sports supplements and the knowledge on banned doping agents.

**Methods:** A descriptive study was done on 130 conveniently selected school athletes among leading schools in Colombo using a self-administered questionnaire.

**Results:** The sample population included 13.1% female athletes and 73.4% male athletes. The participants were from ages 15-20. From the majority, 62.3% took dietary supplements and 56.9% of the population took supplements without any doctor's recommendation. 13.1% would go to a physician to get information on supplements. 48.5% believes that supplements are right for them out of which 58.7% relied on the supplement label to select the right supplement. 50% believes that energy drinks can improve sports performance. 56.9% agrees that with doping body shape and muscle mass can be increased. 55.4% agrees that doping can cause harm to the user. 46.2% disagrees that taking a doping agent is an ethical deed. Also 45% disagrees respecting individuals who drug dope. 2.3% from the sample have taken a banned substance.

**Conclusions:** The use of nutritional and sports supplements are common among school level athletes, also majority is aware of the risks. But given the circumstances if they are provided with the substance they are ready to use them.

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### Eating disorders in male athletes: It is just as hard to be Ken as Barbie

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In the US, approximately 10 Million men will suffer from a clinically significant eating disorder at some time in their life, including anorexia nervosa, bulimia nervosa, or binge eating disorder. Certain eating disorder type behaviors (including binge eating, purging, and laxative abuse and fasting for weight loss) are nearly as common among males as they are among females. Men with eating disorders often suffer from comorbid conditions such as depression, excessive exercise, substance disorders, and anxiety. Some of the reasons men suffer from eating disorders is pressure to be lean and muscular, body dysmorphia and desire to compete in certain sports. Many men are afraid to admit their eating disorders, which mean they may never seek help.

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## Nutritive composition analysis of honeybee Apis mellifera L. brood as edible insect: Chemical composition and amino acids content

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The aim of research is to analyze and recognize the chemical composition of worker and drone honeybee brood, (larvae and pupae), and their content of amino acids. Larvae and pupae of workers and drones of honeybee were collected from bee hives and dried at 90°C for 180 min., then stored in vacuum bags in deep freezer until analysis. The chemical composition appeared that, in general, the pupae contain higher protein (43.1%), fat (18.1%), fiber (3.2%) and ash (4.5%) than the larvae (40.8%, 14.7%, 2.3% and 4%, respectively). In contrast, the dried larvae (workers and drones) had more carbohydrate (20.5%) and moisture (6.5%) than the pupae (15.2% and 5.4%, respectively). The dried pupae contained significant amount of amino acids (91.6%) than larvae (82.1%). All essential amino acids were detected in a considerable quantity in pupae (41.3%) and larvae (36.6%). The drone brood (average larvae and pupae) increased in their content of protein (44.3%) and fat (21.8%) than the workers brood (41.9% and 16.4%, respectively), while they reversed for carbohydrate and ash. They had similar amounts of crude fiber. The protein efficiency ratio was ranged from 3.397, (larvae) to 3.765 (pupae). The biological values of larvae and pupae were 85.66 and 89.55, respectively. The amino acid score of the mixed brood was higher than the recommended values by FAO/WHO for children and adults and the methionine being the limited amino acid. Generally, this study showed that the nutritional value and vitality of the honeybee brood (dried larvae and pupae) as a new source of animal protein.

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## A study of foot defects, foot deformities and diseases among long, middle distance shod and barefoot runners: A cross sectional comparative study

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Running is most popular form of exercise that people engage in to stay active and healthy. However owing to a high incidence for injuries there arise a need to increase safety of running so as to derive the health benefits of running that overweighs the risk of injury. Foot problems are the most common injuries that are reported by long distance and marathon runners. There is controversy over the use of barefoot running to decrease the overall risk of injury secondary to individual differences in lower extremity alignment, gait patterns, and running biomechanics. Although few studies in the past explored foot conditions among non-athletes, none compared foot defects, deformities and diseases among barefoot and shod long distance runners. This study was to compare the occurrence of foot defects, deformities and diseases between middle, long distance shod runners and barefoot runners. It is a cross-sectional, comparative experimental study with double phase design. Convenient of sampling method was adopted and three groups were stratified into barefoot, shod runners and unshod counterpart from Dakshina, Karnataka, India. The mean age of barefoot runner group was 19.11±3.4, shod runners 21.51±8.2 and control 20.67±2.04 who were screened in this study. Duration was from 2009 to 2014. Total sample of 255 was aimed at 5% drop out by conforming to the sample size of 240 by pilot study. Validated tools were used to screen these disorders approved by dermatologist and orthopedic surgeon. SPSS v 16.0 is used for data analyses. Homogeneity was tested across groups. . The mean BMI of barefoot runner group was 18.7±2.5, shod runners 19.5±3.2 and controls 20.98±2.5. Descriptive data of the occurrence of foot defects, deformities and diseases were drawn and ANOVA one way analysis revealed significant difference in foot defects, deformities and diseases among the three groups with p<0.01. Shoe components were correlated. There was significant difference in foot defects, deformities and diseases among the three groups with p<0.01. Control group was found with negligible foot disorders against the other two groups.

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## Comparison between pre-exercise meals intake effect with different glycemic load on exercise performance in female athletes

#### Reza Ghiasvand, Zinat Sharifhosein and Leila Darvishi Isfahan University of Medical Sciences, Iran

Athletes usually search for strategies to optimize their performance. Manipulation of carbohydrate (CHO) resources glycemic load in order to optimizing athletic performance provides new research areas in nutritional sport. Purpose of this study is to examine the effects of two isocaloric meals with different glycemic load (GL) on exercise performance and serum free fatty acids. Thirty six non-professional athletic women with ages between 19 and 24 were assigned in a double blinded randomized clinical trial with two period cross-over designs. Participants in each group received a high or low GL meal as a breakfast, and 7-day wash out period was determined. Serum free fatty acid (FFA) measurements were performed before and after each phase of intervention. Three hours after ingestion of a meal, participants ran to exhaust, in a 20 meters shuttle run pacer. Time to exhaustion (TTE) was recorded as a measure of exercise performance. In an attempt to ensure that subjects run to exhaustion, rating of perceived exertion (RPE) was measured, using a Borg scale. The ingestion of a low GL or high GL pre-exercise meal did not lead to different TEE and RPE at 3 hours before exercise in female athletic students. Mean changes of serum FFA were higher in low GL than high GL meal. Consumption of a low GL meal compared with a high GL meal at 3-hr before a shuttle run pacer, was not associated with significant changes in TEE and RPE levels but low GL meal led to more increase serum FFA than high GL.

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